

CLAIMS

1. Pump comprising a body (10), an actuating shaft (1) on which at least a first impeller (21a) and a second impeller (21b) are coaxially mounted, each  
5 being housed in a respective front chamber (15a) and rear chamber (15b) respectively connected to a fluid intake duct (11) and a fluid delivery duct (13), characterized in that:

- said front chamber (15a) is delimited by said  
10 body (10) and by an interstage body (16);

- said rear chamber (15b) is delimited by said interstage body (16) and by a shield (23)

- said interstage body has:

• two volutes (22a, 22b) respectively associated  
15 with the corresponding first impeller (21a) and second impeller (21b);

• a first discharge orifice (16a) connecting the volute (22a) of the first impeller (21a) to the exterior;

20 • a second discharge orifice (16c) connecting the volute (22b) of the second impeller (21b) to the delivery duct (13);

- inside said body (10) there being formed a channel (17) for the throughflow of the fluid from said  
25 first chamber (15a) to the means for supplying the fluid to the second impeller (21b).

2. Pump according to Claim 1, characterized in that said channel (17) of the body (10) is arranged parallel to the longitudinal axis of the pump.

30 3. Pump according to Claim 1, characterized in that said discharge orifices (16a,16c) of the volutes (22a,22b) are arranged in a tangential direction.

4. Pump according to Claim 1, characterized in that said orifice (16a) for connecting the first volute  
35 (22a) to said channel (17) of the body (10) is connected to a first radial duct (16b) formed in the

said body (10).

5        5. Pump according to Claim 1, characterized in that said means for supplying the fluid to the second impeller (21b) comprise a radial duct (24) inside the rear closing shield (23), the opposite ends of said duct (24) being respectively connected to the channel (17) of the body (10) and to a header (25) for supplying the fluid to the second chamber (15b).

10       6. Pump according to Claim 4, characterized in that said header (25) supplying the fluid to the second rear impeller (21b) has a coaxially extending nozzle for supplying the fluid to the impeller in an axial direction.

15       7. Pump according to Claim 1, characterized in that said discharge orifice (16c) of the second volute (22b) is connected to the fluid delivery duct (13) by means of a second radial duct (16d) formed in the said pump body (10).

20       8. Pump according to Claim 1, characterized in that said interstage body (16) is interchangeable.

9. Pump according to Claim 1, characterized in that the volutes (22a,22b) are annular.

10. Pump according to Claim 1, characterized in that the volutes (22a,22b) have a constant width.

25       11. Pump according to Claim 1, characterized in that the discharge nozzles (25a,25b) of the volutes are angularly offset at 180° with respect to each other.

30       12. Pump according to Claim 1, characterized in that said impellers are identical, symmetrical and opposite to each other.

35       13. Pump according to Claim 1, characterized in that the seals between the interstage body (16) and the pump body (10) and between the rear shield (23) and the pump body (10) consist of seals (50) of the spiral type.

14. Pump according to Claim 13, characterized in

that said seals (50) are made of steel and graphite.